

QUANTANTHURA (CRUSTACEA: ISOPODA: ANTHURIDAE)
FROM SOUTH-EASTERN AUSTRALIAN AND NEW ZEALAND

BY GARY C. B. POORE AND HELEN M. LEW TON

Department of Crustacea, Museum of Victoria, Swanston Street, Melbourne, Victoria 3000
Australia

Abstract

Poore, G.C.B. and Lew Ton, H.M., 1986. *Quantanthura* (Crustacea: Isopoda: Anthuridae) from south-eastern Australia and New Zealand. *Mem. Mus. Vict.* 47: 75-85.

A diagnosis of the genus *Quantanthura* Menzies & George is presented and three new species are described: *Quantanthura erica* and *Q. fremi* from south-eastern Australia and *Q. raoulia* from southern New Zealand. Relationships between all the described species are discussed.

Introduction

This contribution continues the examination of the anthurid fauna of south-eastern Australia (see Poore and Lew Ton, 1985, for previous contributions). Conventions and abbreviations used are given in Poore (1984). Material used in this study has also come from a survey of Moreton Bay (QUBS) carried out by the University of Queensland, and the Portobello Marine Laboratory, New Zealand. Specific epithets are taken from genera of the Australian and New Zealand flora following a pattern established by Poore (1984).

***Quantanthura* Menzies & George, 1979**

Diagnosis. Integument smooth. Pereonite 7 elongate (three-quarters length of pereonite 6). Eyes present, rarely absent. Antenna 1 flagellum long, of 5-7 articles, the three distal articles each bearing 1 aesthetasc. Antenna 2 flagellum long, of 7-9 articles.

Mandibles symmetrical: incisor, lamina dentata and blunt molar present; palp 3-articled, article 3 one-third length of article 2, with 2-4 terminal setae. Maxilliped with a broad endite which reaches beyond article 2 of the 5-articled palp. Endite distally rounded and bearing a single seta. Palp article 1 wider than long, triangular, without a free mesial margin; article 2 with at least 1 mesiodistal seta; article

3 with a row of mesial setae, produced mesially; article 4 much smaller than 3, subterminal, suture oblique, with 2 apical setae; article 5 minute (obscure on some species), with 4 terminal setae.

Pereopod 1 subchelate, article 6 swollen, palm without a tooth. Pereopods 2 and 3 with article 6 ovoid. Pereopods 4-7 with article 5 more or less pentagonal, with a free disal margin bearing 1 or more spines; article 6 narrower, linear.

Pleon longer than wide, pleonites 1-5 fused dorsally (sutures visible laterodorsally); pleonite 6 free from others and telson. Pleopod 1 exopod operculiform, endopod setose; pleopods 2-5 setose. Uropodal endopod as long as peduncle; marginal lateral setal row continuous. Telson indurate, dorsally convex; apex with discontinuous row of long setae; two basal statocysts.

Males unknown. Submale antenna 1 flagellum with many articles, reaching to end of pereonite 2.

Type species. *Quantanthura globitelson* Menzies & George, 1972.

Remarks. *Quantanthura* was previously diagnosed as possessing six maxillipedal articles (Menzies and George, 1972; Kensley and Koenig, 1979). The minute terminal seventh article evident on the Australian species, on *Q.*

pacifica Wägele and on *Q. remipes* (Barnard) (see Kensley, 1982) has been overlooked on the type species and the two Brazilian species. New drawings of the maxilliped of *Q. globitelson* and *Q. menziesi* supplied to us by B. Kensley (pers. comm.) confirm its presence, although the suture separating it from article 6 is faint.

Nevertheless there do appear to be two groups of species within the genus: 1-*Q. erica* n. sp., *Q. fremi* n. sp., *Q. raoulia* n. sp., *Q. pacifica*, *Q. globitelson* Menzies, 1962, and *Q. sinuata* Kensley, 1982; 2-*Q. brasiliensis* Kensley & Koenig, 1979, *Q. menziesi* Kensley & Koenig, 1979 and *Q. remipes* (Barnard, 1914). The differences between them, largely in the antenna 1, mandibular palp, maxilliped and posterior pereopods, are given in Table 1. But these two groups are not biogeographically separate. The first group contains four south-western Pacific species and two from the Atlantic deep sea. The second group is of Brazilian shelf and South African species.

Quantanthura is most closely related to *Agulanthura* Kensley, with which it shares a similar maxillipedal endite and palp (Wägele, 1981). *Agulanthura* is not a junior synonym of *Malacanthura* as proposed by Kensley (1982) but, like *Quantanthura*, is a specialised genus lying near the stem of the Anthuridae.

Quantanthura erica sp. nov.

Figures 1-3

Material examined. 2 ♀♀, 5 juveniles; 14.3-24.2 mm.

Holotype: ♀, 24.2 mm, NMV J4454 (with one slide). Vic., Western Port, Crib Point (38°20.04'S., 145°14.10'E.), sand, 19 m, 23 Mar 1965 (CPBS stn 61N).

Paratypes: Vic. type locality, NMV J4455 (2 specimens). Western Port, CPBS stations: stn 51S, NMV J4456(1); stn 52N, NMV J4457(1).

Additional material: Bass Strait, off Lakes Entrance, BSS stn 207, NMV J8407(2).

Description. Body 13 times as long as wide; pereonite 7 as long as wide; pleon 1.3 times as long as wide, little longer than pereonite 7. Head longer than wide, broader posteriorly, narrower than pereonites. Antenna 1 peduncle

with a long marginal seta on article 3 only; flagellum of 6 articles. Antenna 2 flagellum of 8 articles, as long as last 2 articles of peduncle. Mandibular palp articles 1 and 2 with a single distal seta each, article 3 smaller, with 4 terminal setae. Maxilliped endite reaching to half way along article 5 almost to base of article 6; articles 4, 5 and 6 with 1, 3 and 2 mesial setae respectively; article 7 reaching beyond end of article 5, with 4 terminal setae.

Pereopod 1 article 6, 4 times as long as palm; palm oblique, convex, with row of marginal setae. Pereopod 2, distal articles with setose posterior margin and article 5 with setae on anterior margin; article 6 ovoid, with spine two-thirds way along posterior margin. Pereopod 3 similar to 2, but smaller. Pereopods 4-6 with article 5 pentagonal, as long as broad, posterior margin setose, with 2 spines, free distal margin with 2-4 pectinate setae; article 6 broader distally, posteriorly setose and with a distal spine and 3 pectinate setae. Pereopod 7 similar to pereopods 4-6 but article 6 bearing a posterior spine as well as a distal spine.

Uropodal endopod 1.8 times as long as greatest width, with scattered short submarginal setae. Exopod twice as long as greatest width; distoventral lobe acute, dorsal margin sinuous. Telson 1.3 times as long as pleon, 2.5 times as long as greatest width, widest just beyond midpoint; lateral margins curved and tapering to a broadly rounded apex. Apex with about 20 long setae, separated by an apical hiatus; distally numerous short submarginal setae.

Male. Not known.

Distribution. Victoria, Western Port and Bass Strait; sandy sediments.

Remarks. Smaller specimens have a head with parallel lateral margins. The adult size of this species is about twice that of *Quantanthura fremi*, adult females reaching 22-24 mm, whereas large juveniles and subadult males of *Q. fremi* are 11-13 mm long. Other characters useful in separation of the two species are given after the description of *Q. fremi*.

Figure 1. *Quantanthura erica*. Holotype female.

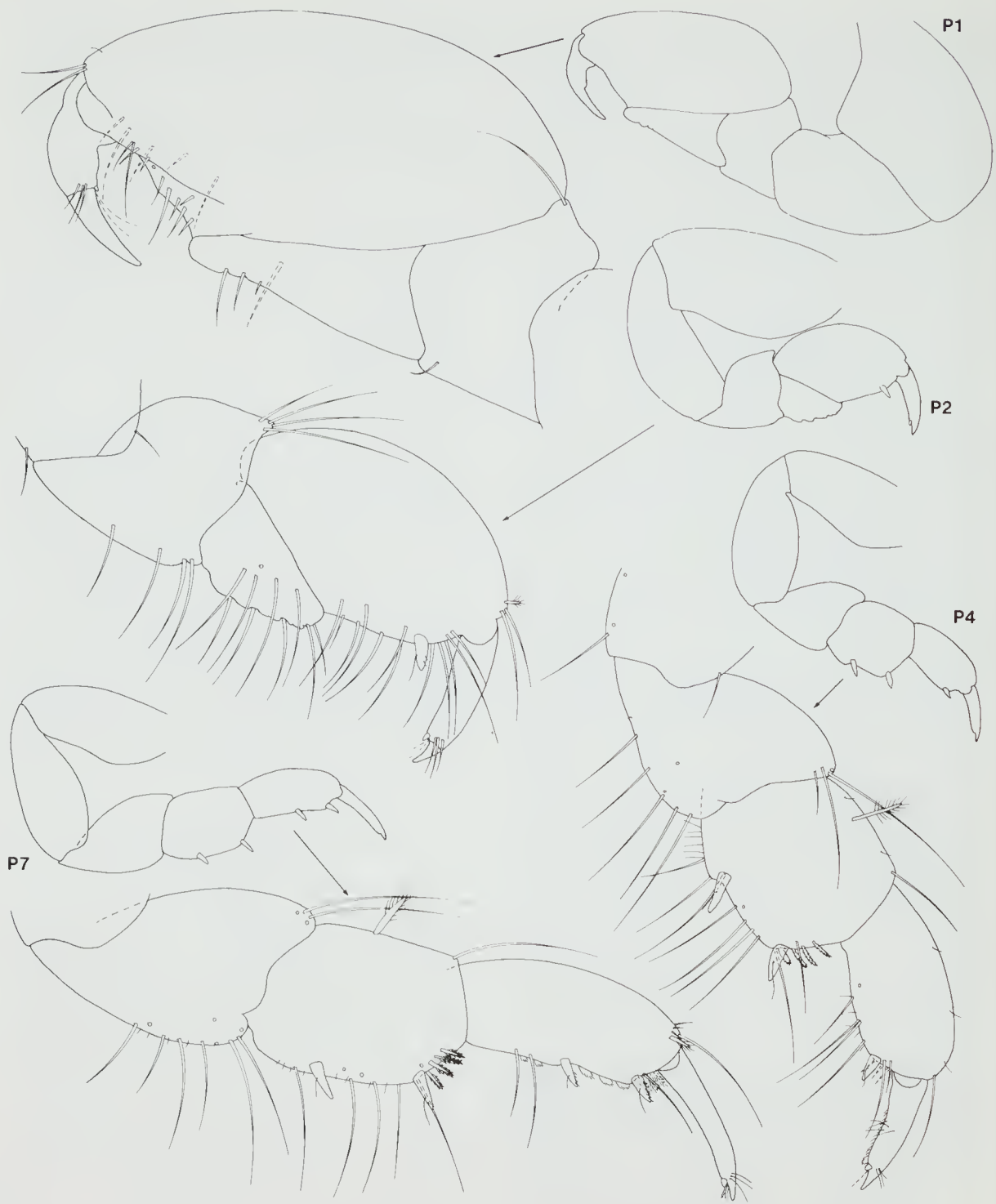


Figure 2. *Quantanthura erica*. Holotype female.

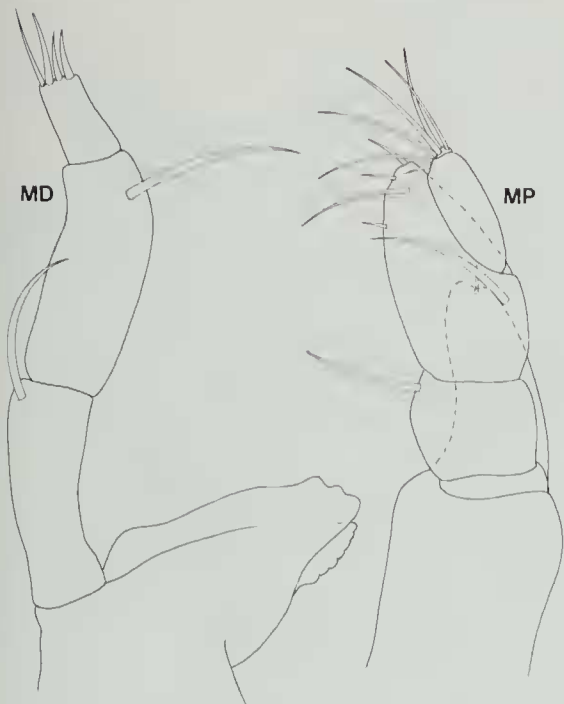


Figure 3. *Quantanthura erica*. Holotype female.

Quantanthura fremi sp. nov.

Figures 4, 5

Material examined. 2 submales, 6 juveniles; 10.6–12.6 mm.

Holotype: juvenile, 11.4 mm, QM W10604 (with one slide). Old, Middle Banks, Moreton Bay, S. Cook and S. Newlands (QUBS station).

Paratypes: Old, type locality, QUBS stations: QM W6127 (1 submale); QM W6134 (1); QM W10601 (1); QM W10602 (1); QM W10606 (1 submale); NMV J4568 (1).

Other material: NSW, off Malabar (AMSBS Shippek coll.), AM P24359 (1).

Description. Body 15 times as long as wide; pereonite 7 longer than wide; pleon 1.5 times as long as wide, as long as pereonite 7. Head longer than wide, broadest posteriorly, little narrower than pereonites. Antenna 1, peduncle with a long marginal seta on article 3 only; flagellum of 6 articles. Antenna 2 flagellum of 7 articles, as long as last 2 articles of peduncle. Mandibular palp articles 1 and 2 with a single distal seta each; article 3 with 4 terminal setae. Maxilliped endite reaching half way along article 5, to base of article 6; articles 4, 5 and 6 with 1, 2 and 2 mesial setae respec-

tively; articles 6 and 7 both reaching beyond distal end of article 5; article 7 with 4 setae.

Pereopod 1, article 6 3.5 times as long as palm; palm axial-oblique, straight with row of marginal setae. Pereopod 2 article 6 ovoid with spine two-thirds way along posterior margin; long setae only on posterior margin. Pereopod 3 similar to 2 but smaller. Pereopods 4–6 with article 5 pentagonal, longer than broad, posterior margin setose with 2 spines, free distal margin excavate and with 1 pectinate seta; article 6 broader distally, posteriorly setose and with a distal spine and with 3 pectinate setae. Pereopod 7 similar to pereopods 4–6 but article 6 bearing a posterior spine as well as a distal spine.

Uropodal endopod 2.4 times as long as greatest width; submarginal setae absent. Exopod twice as long as greatest width; ventral lobe rounded. Telson 1.7 times as long as pleon; 3.5 times as long as greatest width, widest at midpoint; lateral margins broadly curved and tapering to a narrowly rounded apex. Apex with about 16 long setae; submarginal setae absent.

Male. Not known. Submale, antenna 1 flagellum of many articles.

Distribution. Queensland, Moreton Bay; NSW, off Malabar; sandy sediments.

Remarks. *Quantanthura fremi* has a narrower body than *Q. erica*, pereonite 7 is more elongate and the telson is much narrower; the limbs are a little more elongate.

Quantanthura raoulia sp. nov.

Figures 6, 7

Material examined. 1 ♀, 2 juveniles; 6.2–12.9 mm.

Holotype: ♀, 12.9 mm, NMNZ Cr.3340 (with one slide). New Zealand, Otago Harbour (45°51'S., 170°35'E.), 19 m, S.F. Rainer, 12 Dec 1966.

Paratypes: NZ, type locality, NMNZ Cr.3341 (2 specimens).

Description. Body 13 times as long as wide; pereonite 7 longer than wide; pleon 1.2 times as long as wide, about as long as pereonite 7. Head longer than wide, broader posteriorly, narrower than pereonites. Antenna 1 peduncle with a long marginal seta on article 3 only;

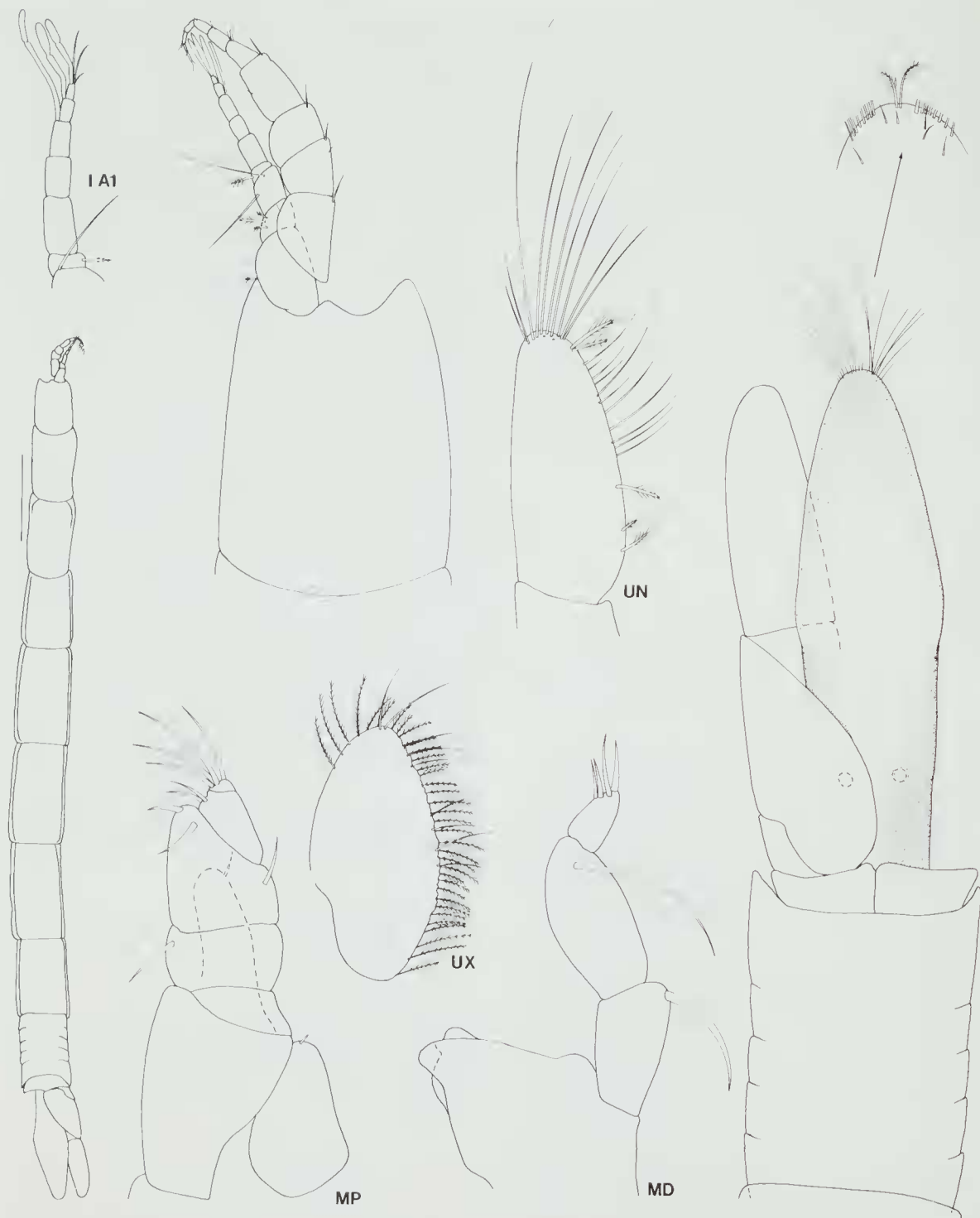


Figure 4. *Quantanthura fremi*. Holotype juvenile.

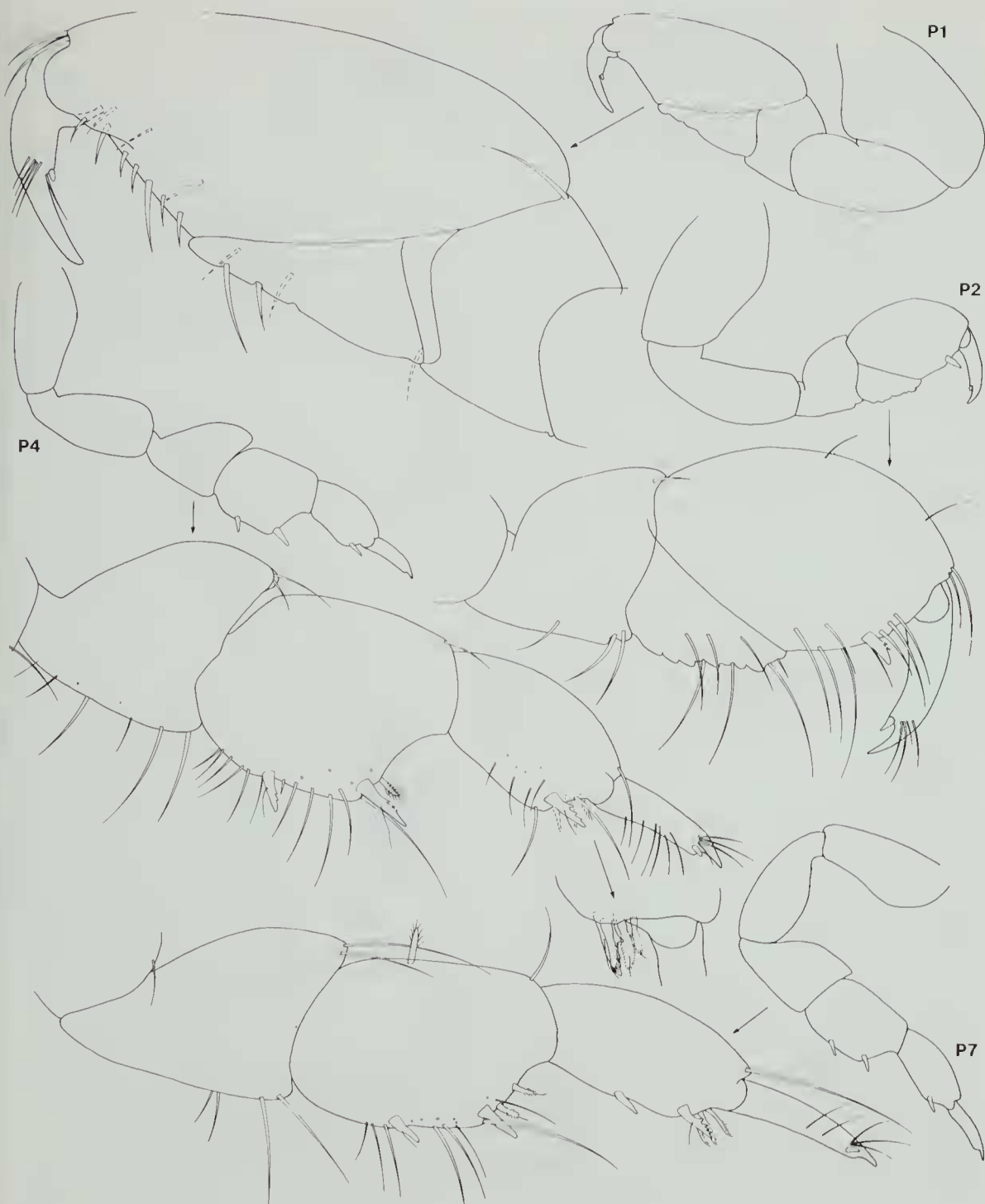


Figure 5. *Quantanthura frema*. Holotype juvenile.

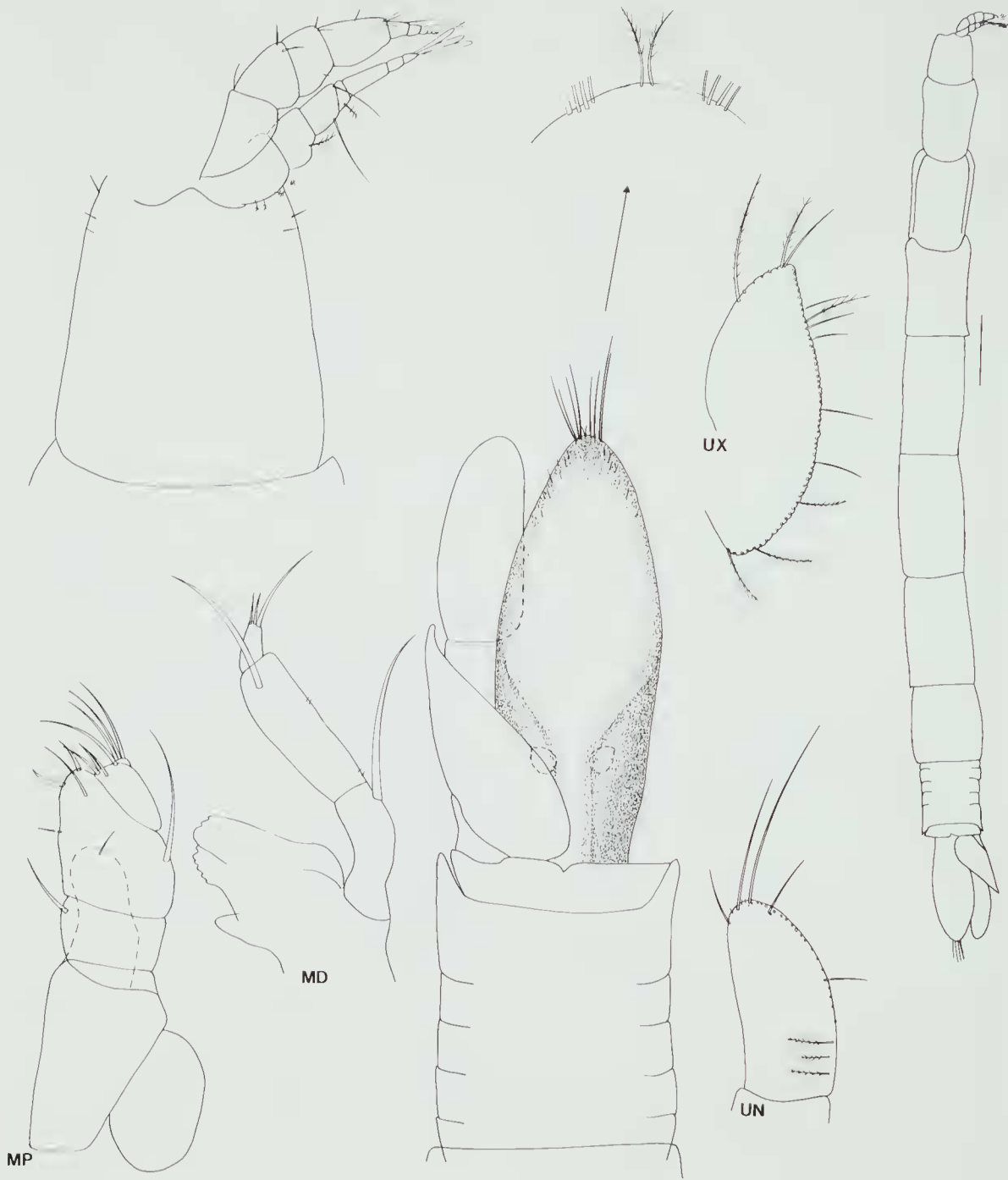


Figure 6. *Quantanthura raoulia*. Holotype female.

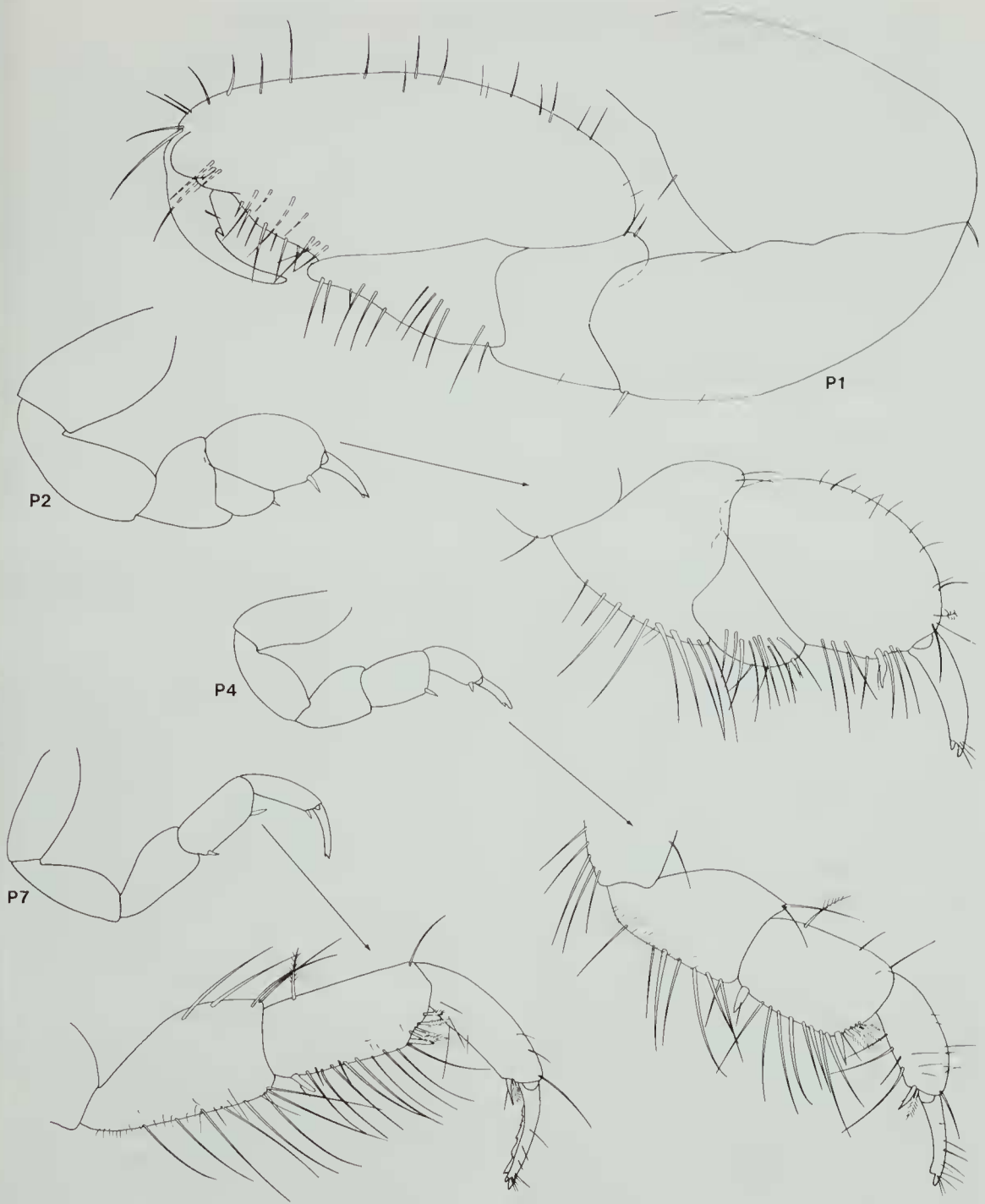


Figure 7. *Quantanthura raoulia*. Holotype female.

Table 1. Comparison of species-groups of *Quantanthura*

Species-group	1	2
Antenna 1		
—long setae on article 2	0	9-11
—long setae on article 4	1	2-4
Mandibular palp		
—lengths of articles 1 and 2	12	2≈1
—long setae on article 2	1	2
Maxilliped		
—articles 4 and 5, long lateral setae	0-1	2-3
Pereopods 4-7		
—posterior margins densely setose	No	Yes

flagellum of 5 articles. Antenna 2 flagellum of 6 articles, shorter than last 2 articles of peduncle. Mandibular palp articles 1 and 2 with a single distal seta each, article 3 smaller, with 3 terminal setae. Maxilliped endite reaching to half way along article 5, almost to base of article 6; articles 4, 5 and 6 with 1, 3 and 2 mesial setae respectively; article 7 reaching beyond end of article 5, with 4 terminal setae.

Pereopod 1 article 6 4 times as long as palm; palm oblique, convex, with row of marginal setae. Pereopod 2, distal articles with setose posterior margin and article 5 with setae on anterior margin; article 6 ovoid, with spine two-thirds way along posterior margin. Pereopod 3 similar to 2, but smaller. Pereopods 4-7 with article 5 pentagonal, longer than broad, posterior margin densely setose with 2 spines, free distal margin with 2-4 pectinate setae; article 6 with a convex anterior margin, posteriorly densely setose and with a distal spine and 3 pectinate setae.

Uropodal endopod twice as long as greatest width. Exopod 2.5 times as long as greatest width; distoventral lobe acute, dorsal margin sinuous. Telson 1.4 times as long as pleon, 2.5 times as long as greatest width, widest at mid-point; lateral margins curved and tapering to a

broadly rounded apex. Apex with about 8 long setae, separated by an apical hiatus.

Male. Not known.

Remarks. *Quantanthura raoulia* from New Zealand most closely resembles *Q. erica* from Australia in its general body form and shape of the telson. The species has fewer articles in the flagella of antennae 1 and 2, pereopod 4 article 5 is longer than broad and the uropodal exopod is much narrower. It differs from the other New Zealand species, *Q. pacifica*, in broader articles on pereopods 2-7 and longer and narrower telson and uropods. *Quantanthura raoulia* is a shallow water species from Otago Harbour while *Q. pacifica* is from depths greater than 420 m on the West Coast.

Acknowledgements

The contribution was made possible through a grant from the Australian Biological Resources Study. We are especially grateful to G. Milledge and H. Handsjuk who inked all the figures. For the loan of material we thank P. Davie (Queensland Museum, Brisbane) and J. Jillett (Portobello Marine Laboratory, Dunedin) and for re-examining type material in the Smithsonian Institution we thank B. Kensley.

References

- Kensley, B., 1978. Five new genera of anthurid isopod crustaceans. *Proc. biol. Soc. Wash.* 91: 775-92.
- Kensley, B., 1982. Revision of the southern African Anthuridea (Crustacea, Isopoda). *Ann. S. Afr. Mus.* 90: 95-200.
- Kensley, B. and Koenig, M.L., 1979. Two new species of *Quantanthura* from Brasil (Crustacea, Isopoda, Anthuridae). *Proc. biol. Soc. Wash.* 91: 953-62.
- Menzies, R.J. and George, R.Y., 1972. Isopoda Crustacea from the Peru-Chile Trench. *Anton Bruun Rep.* 9: 1-24.
- Poore, G.C.B., 1984. *Paranthura* (Crustacea, Isopoda, Paranthuridae) from south-eastern Australia. *Mem. Mus. Vict.* 45: 33-69.
- Poore, G.C.B. and Lew Ton, H.M., 1985. *Apanthura*, *Apanthuretta* and *Apanthuropsis* gen. nov. (Crustacea, Isopoda, Anthuridae) from south-eastern Australia. *Mem. Mus. Vict.* 46: 103-51.
- Wägele, J.W., 1981. Zur Phylogenie der Anthuridea (Crustacea, Isopoda) mit Beiträgen zur Lebensweise, Morphologie, Anatomie und Taxonomie. *Zoologica Stuttg.* 132: 1-127.
- Wägele, J.W., 1985. Two new genera and twelve new species of Anthuridea (Crustacea: Isopoda) from off the West Coast of New Zealand. *N.Z. J. Zool.* 12: 363-423.